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FOREST INSECT CONDITIONS ON THE HOOPA INDIAN RESERVATION, CALIFORNIA SEASON OF 1939

During the period September 11-15, 1939, a survey of current forest insect conditions was made on the Hoopa Indian Reservation by J. E. Patterson and J. S. Yuill of the Bureau of Entomology and Plant Quarantine, and Leonard B. Radtke of the Indian Service. This survey covered the entire Reservation by general reconnaissance methods; augmented by special examination of areas suspected of harboring infestations.

General Conditions

Current infestation conditions throughout the Reservation forests are generally satisfactory. Losses due to barkbeetle activity in the pine and fir forests are subnormal for these stands with no visible indications of early increase. Past losses have been low as indicated by the absence of snags and black topped trees. Examination of trees felled during the past two years in road and motorway construction projects showed a very light attack by barkbeetles, or else no attack, indicating a very low beetle population in these forests. Conditions in the oak forests are similar, with very low loss due to barkbeetles and borers. However, the mast of the broad leaf trees is very heavily infested by weevils (Balaninus sp.) and caterpillars (Melissopus and Valentinia) resulting in greatly diminished food crop for range hogs and Indians.

The tent caterpillar (Malacosoma sp.) developed to epidemic status in the broad leaf forests during the season, attacking oak, Ceanothus, alder and madrona. This infestation was more spectacular than damaging, resulting in only partial defoliation of attacked trees with very little damage to them.

An incipient infestation of the alder leaf beetle (Haltica) developed in Oregon alder along several stream courses. Partial defoliation, largely confined to the tops of the trees, resulted.

Pine and Fir Forests

The higher elevations of this Reservation are heavily timbered with a mixed stand of sugar pine, ponderosa pine and Douglas fir, with a partial understory of broad leaf species. Insects attacking the pine and fir are: The mountain pine beetle, Dendroctonus monticolae, which attacks both sugar pine and ponderosa pine is very rare in these forests. Only a few sugar pine trees near the head of Hospital Creek were found attacked by this beetle.

The western pine beetle, Dendroctonus brevicomis, which attacks ponderosa pine only, is the most common barkbeetle of the Reservation. Active infestations of this beetle of a mild form were found in several local areas; Hospital Creek, Tish-Tang-A-Tang, Hostler Creek, Mill Creek, Bald Mountain and French Gulch. However, very little damage has resulted from its attacks. On a per section basis the current loss, as well as previous annual losses, do not exceed 10 trees per section.

The Douglas fir beetle, Dendroctonus pseudotsugae, is present in very limited numbers, attacking windthrown Douglas fir and slash. No standing trees were found to have been killed by this beetle.

Broadleaf Forests

These occur in the valleys, along stream courses, and on the lower slopes of the mountains. They are composed chiefly of the following species: Black oak, Garry oak, Canyon live oak, tanbark oak, giant chinquapin, alder, water maple, ash, pepper tree and madrona. Barkbeetles (Scolytus) and woodborers (Cerambycidae - Buprestidae) are common in most of these species, but damage resulting from their attacks is not great and is of very little importance because of the low utility value of these woods. Defoliations were currently present in near epidemic form, but so far have not seriously damaged attacked trees. Control methods against these species under the forest conditions prevailing on the Reservation are not justifiable.

By far the greatest damage caused by insects on this Reservation is resulting from infestations of the mast of broad leaf trees. The mast, acorns of oak and chinquapin, seeds of maple and ash, and the nuts of the pepper tree, formathe bulk of range feed for hogs, the principal commercial product of the natives. Oak and chinquapin acorns and the nuts of the pepper tree are a major item of winter food of the Indians and are annually gathered in large quantities for this purpose. Tanbark oak is the principal species, occurring from the valley levels to the tops of the highest ridges. It is a prolific bearer of acorns and is the tree most relied upon for this food. The degree of injury caused by insects to the current crop of acorns is approximately 60% as determined by cutting tests of several batches of mast. This high loss is believed to be normal with perhaps no great annual variation. Black oak acorns are damaged to nearly the same extent, greatly reducing the edible portion of each year's crop. Reduction of this large insect loss by control measures is highly desirable. The value of the crop amply warrants such measures. Control may be accomplished by employing the methods described in the report "Demonstration of Control Methods Applicable to Acorns on the Hoopa Indian Reservation", September 27, 1939.

Conclusions

Current insect conditions in the coniferous forest are in an endemic state, without indications of early increase. Artificial control is neither warranted nor recommended at this time.

Defoliation of broad leaf trees has greatly increased during the past season, but due to the intermittent nature of these infestations and the fact that control is not feasible under normal forest conditions, artificial control measures are not recommended.

Excessive losses in the mast of broad leaf trees is resulting from the attacks of fruit infesting insects. The local economic value of this crop warrants control measures on areas of greatest use. Adequate control methods are suggested in a separate report.

Respectfully submitted,

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